

Docket No.: 0649-1070PUS1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Tatsuya IGARASHI et al.

Application No.: 10/530,289

Confirmation No.: 7753

Filed: April 5, 2005

Art Unit: 1794

For: ORGANIC ELECTROLUMINESCENT
DEVICE

Examiner: D. L. Garrett

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

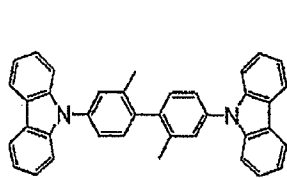
Madam:

I, Toshihiro Ise, declare and say as follows:

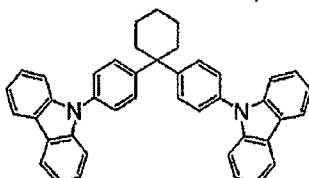
I am named as a co-inventor of the above-identified application.

I have reviewed the Office Action dated September 18, 2009 wherein the Examiner notes that Additional Example 1 and Additional Example 2 of a previously filed Declaration are not within the scope of independent claim 1 requiring that each of the electron injection/transport compound, the hole injection/transport compound, and the green or blue phosphorescent compound has a T1 value of 62 kcal/mole or more. The Examiner notes that Additional Examples 1-2 include CBP, which has a T1 value of 60 kcal/mole.

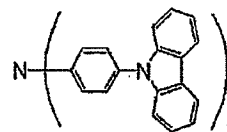
As such, I have carried out three additional inventive examples myself or under my direct supervision. In these examples, pyrrole compounds having T1 values of 62 kcal/mole or more are used as hole transport compounds. The conditions for these additional examples were the same as in the previous examples in the previously filed Declarations except CBP has been replaced by one of the pyrrole compounds shown below.



C-6
 $T_1=65\text{kcal/mol}$



C-7
 $T_1=64\text{kcal/mol}$



C-12
 $T_1=64\text{kcal/mol}$

The results are shown in the Table below. "O" is provided under "condition for T₁" in the Table when the limitation "the electron injection/transport compound, the hole injection/transport compound, and the green or blue phosphorescent compound each has a T₁ value of 62 kcal/mole or more" is met. As shown in the Table below in conjunction with the previously filed Declarations, it is extremely difficult to meet both of the conditions for I_p and E_a and the condition for T₁.

Table

	Layer Structure of Device	External quantum efficiency	Operation durability	I _p for hole transport material	E _a for electron transport material	Condition for T ₁
Additional Experiment 101	ITO/CuPc(10)/NPD(50)/80%C-6+10%TPBI+10%Ir(ppy) ₃ (36)/ET-2(36)/LiF/Al	8.7%	2850h	6.1	2.6	O
Additional Experiment 102	ITO/CuPc(10)/NPD(50)/80%C-7+10%TPBI+10%Ir(ppy) ₃ (36)/ET-2(36)/LiF/Al	11.4%	3100h	5.8	2.3	O
Additional Experiment 103	ITO/CuPc(10)/NPD(50)/80%C-12+10%TPBI+10%Ir(ppy) ₃ (36)/ET-2(36)/LiF/Al	10.5%	2150h	5.7	2.4	O

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S. Code 1001 and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

By: Toshihiro Ise
Dr. Toshihiro Ise

Date: Dec, 15, 2009